



***Cythericercus bovis* (C. bovis): tapeworm cysts in cattle**

21 April 2017

Title

Guidance Document: *Cythericercus bovis* (C. bovis): tapeworm cysts in cattle

About this document

This guidance document provides information about *Cythericercus bovis* for farmers.

Related Requirements

The Animal Products Act 1999 requires inspection of all beef for any sign of disease after slaughter.

C. bovis is rare in New Zealand, but there are control measures that are put in place when it is detected.

Document history

No.	Version Date	Section Changed	Change(s) Description
1.	21 April 2017	New	Replaces the web page entitled <i>Cythericercus bovis</i> (C. bovis) – tapeworm cysts in cattle, June 2009

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1 Purpose

The purpose of this document is to make farmers aware of *Cysticercus bovis* and the precautions they should take to prevent their cattle becoming infected.

2 Background

Cysticercus bovis (*C. bovis*) is the larval form of a parasitic tapeworm that infests the muscles of cattle.

- Cattle are infected with *C. bovis* by ingesting eggs of the human tapeworm *Taenia saginata* (*T. saginata*).
- Humans are infected with *T. saginata* by ingesting raw or inadequately cooked beef containing viable tapeworm cysts.

The parasite cannot be spread from person to person, or between cattle.

C. bovis is rare in New Zealand, but it is a disease that farmers should be aware of.

How do cattle become infected?

C. bovis is the larval stage of *T. saginata*, a species of tapeworm found in humans. Infected people can shed as many as one million tapeworm eggs each day in faeces. Cattle become infested by ingesting materials contaminated with tapeworm eggs from human faeces. The eggs hatch and the embryos work their way into the cattlebeast's muscle tissue, where they develop into larvae and form cysticerci, or "cysts". These cysts can remain viable and infective for several months to 2 years, perhaps longer.

Humans can become infected with the tapeworm stage by ingesting raw or inadequately cooked beef containing cysticerci. The tapeworm eggs, which are the infective stage for cattle, are vulnerable to hot, dry conditions but can survive months under wet, cool conditions. They are also resistant to a number of common disinfectants.

What are the clinical signs?

Cattle with *C. bovis* are unlikely to present any clinical signs. Diagnosis relies on detection of lesions or cysts during carcass inspection.

What measures are in place to control *C. bovis*?

The Animal Products Act 1999 requires inspection of all beef for any sign of disease after slaughter.

It is unusual for tapeworm cysts to be discovered during meat inspection in New Zealand. If any sign of disease is found, the carcass is removed and the suspect lesions or cysts are sent to the laboratory for confirmatory diagnosis. If a carcass tests positive for *C. bovis* the meat is frozen on-site for at least 20 days to kill the parasite before being declared safe for human consumption. This process meets accepted international standards. In the rare cases where there is extensive infection the entire carcass is removed and destroyed.

How common is *C. bovis* in New Zealand?

New Zealand has a very low prevalence of *C. bovis* which is endemic to most countries. We have agreements with the EU, Canada and the US to modify (increase) inspection where the disease is found.

3 Definitions

C. bovis

Cyathostomum bovis is the larval form of a parasitic tapeworm that infests the muscles of cattle. It is caused by cattle ingesting eggs of the human tapeworm *Taenia saginata*

MPI

The Ministry for Primary Industries

T. saginata

Taenia saginata is a tapeworm that can infect people if they eat undercooked beef containing viable tapeworm worm cysts. For more information, refer to <https://www.mpi.govt.nz/document-vault/11066>

4 What happens if carcasses from a farm are infected?

When inspection indicates a number of animals from one farm are involved, an investigation will be initiated. This may include controls on the movement of animals from the farm.

Cattle from the same farm may be subject to intensified inspection when slaughtered and meat may be condemned if an excessive number of cysts are detected.

Meat from a farm suspected to be infected will also be frozen as an added precaution.

5 How can I protect my cattle from *C. bovis*?

Avoiding human faecal contamination of cattle feed and water is the best preventative measure. In New Zealand, human sewage is not permitted to contaminate any pasture for any animal. Farmers should check they have adequate and well maintained sewage disposal facilities.

Farmers should ensure farm workers are aware of disease threats and encourage them to exercise good on-farm hygiene practices. If a farm worker or family member is suspected of being infected with human tapeworms, advise them to seek medical treatment.